We claim:-

1. A process for the production of paper, board and cardboard by adding ionic, water-insoluble, uncrosslinked, organic microparticles and at least one retention aid to a paper stock and draining the paper stock over a wire, wherein the organic microparticles used are water-insoluble, uncrosslinked, organic polymers having an average particle size of less than 500 nm and a content of polymerized ionic monomers of less than 1% by weight of water-insoluble, uncrosslinked, organic polymers having an average particle size of less than 500 nm and a content of polymerized ionic monomers of not more than 10% by weight, which are obtainable by polymerizing the monomers in the presence of silica, waterglass, bentonite and/or mixtures thereof.

2. The process according to claim 1, wherein the average particle size of the water-insoluble, uncrosslinked, organic polymers is from 10 to 100 nm and the content of polymerized ionic monomers is from 0.1 to 0.95% by weight.

3. The process according to claim 1 or 2, wherein the average particle size of the water-insoluble, uncrosslinked, organic polymers is from 10 to 80 nm and the content of polymerized ionic monomers is from 0.2 to 0.7% by weight.

4. The process according to any of claims 1 to 3, wherein the average particle size of the water-insoluble, uncrosslinked, organic polymers is from 15 to 50 nm.

5. The process according to any of claims 1 to 4, wherein the water-insoluble, uncrosslinked, organic polymers comprise at least one anionic monomer incorporated in the form of polymerized units.

6. The process according to any of claims 1 to 4, wherein the water-insoluble, uncrosslinked, organic polymers comprise at least one cationic monomer incorporated in the form of polymerized units.

7. The process according to any of claims 1 to 6, wherein water-insoluble, uncrosslinked, organic polymers which are obtainable by free radical aqueous emulsion polymerization of a monomer mixture comprising

   (a) from 30 to 55 parts by weight of at least one monomer whose homopolymer has a glass transition temperature T_g of <20°C,
   (b) from 45 to 70 parts by weight of at least one monomer whose homopolymer has a glass transition temperature T_g of >50°C and
   (c) from 0.01 to less than 1 part by weight of a monomer having ionic groups,

   the sum of the parts by weight of (a) and (b) always being 100,

are used.

8. The process according to claim 7, wherein the monomer (a) is selected from at least one C_1- to C_{10}-alkyl acrylate, C_5- to C_{10}-alkyl methacrylate, C_5- to C_{10}-cycloalkyl (meth)acrylate, C_1- to C_{10}-dialkyl maleate and/or C_1- to C_{10}-dialkyl fumarate, and the monomer (b) is selected from at least one vinylaromatic monomer and/or one α,β-unsaturated carbonitrile or carbodinitrile.

9. The process according to claim 7 or 8, wherein the monomer (c) is selected from α,β-unsaturated C_3- to C_6-carboxylic acids, α,β-unsaturated C_4- to C_8-dicarboxylic acids, anhydrides thereof, monoethylenically unsaturated alkanesulfonic acids, monoethylenically unsaturated phosphonic acids and/or monoethylenically unsaturated arylsulfonic acids.

10 The process according to claim 9, wherein the monomer (c) is used in the polymerization in the form partly or completely neutralized with alkali metal, alkaline earth metal and/or ammonium bases.

11. The process according to any of claims 7 to 10, wherein the water-insoluble, uncrosslinked, organic polymers are composed of

from 35 to 50 parts by weight of monomer units (a),
from 50 to 65 parts by weight of monomer units (b) and
from 0.01 to 0.95 part by weight of monomer units (c),

the sum of the monomer units (a) and (b) always being 100.

12. The process according to any of claims 7 to 11, wherein the water-insoluble, uncrosslinked, organic polymers are obtainable by polymerizing the monomers in the presence of silica, waterglass, bentonite and/or mixtures thereof.

13. The process according to any of claims 1 to 12, wherein at least one fixing agent, strength agent for paper and/or an engine size are also added to the paper stock.

14. The process according to claim 13, wherein the fixing agent used is a polymer comprising vinylamine units, polydiallyldimethylammonium chloride, polyethylenimine, polyalkylenepolyamine and/or dicyandiamide polymer.

15. The process according to any of claims 1 to 14, wherein water-insoluble, uncrosslinked, organic polymers having an average particle size of less than 500 nm and a content of polymerized ionic monomers of less than 1% by weight are metered together with at least one cationic, anionic, amphoteric or neutral

synthetic organic polymer and/or cationic starch as a retention aid to the paper stock before the final shear stage upstream of the headbox.

16. The process according to any of claims 1 to 14, wherein water-insoluble, uncrosslinked, organic polymers having an average particle size of less than 500 nm and a content of polymerized ionic monomers of less than 1% by weight are metered together with at least one retention aid and one finely divided inorganic component to the paper stock after the final shear stage upstream of the headbox, or wherein the retention aid is metered before the final shear stage upstream of the headbox and water-insoluble, uncrosslinked, organic polymers having an average particle size of less than 500 nm and a content of polymerized ionic monomers of less than 1% by weight are metered alone or together with the finely divided inorganic component after the final shear stage upstream of the headbox.